Computing and Cyber Security

Overview

The Bachelor of Computing and Cyber Security is a three-year program at pass level. Students who complete the pass degree at an appropriate level may be admitted to an additional one-year Honours program.

The program is designed to build the graduate attributes and skills for market-ready graduates seeking a career in emerging system environments and cyber security engineering, industry, innovation, and research. The program is delivered using state-of-the-art infrastructure for software design, development, networking, security, simulation, testing, and research.

The BCCS introduces students to Computer Science fundamentals and builds practical system design and development and cyber security skills. The program builds from foundational topics like programming and systems analysis and design through applications of sophisticated algorithms and techniques for system development and implementation. The focus on Cyber Security develops a broad understanding of cyber security defence, offense and analysis techniques and approaches. In the third-year capstone project course, teams of students select from a variety of a real-life ADF and civilian challenges to which they apply the knowledge and skills they have developed during the program.
Faculty
UNSW Canberra at ADFA

Campus
Canberra

Study Level
Undergraduate

Typical duration
3 Years

Delivery Mode
Face-to-face

Intake Period
Semester 1

Academic Calendar
UNSW Canberra Calendar

Minimum Units of Credit
144

Award type
Bachelors Pass

Award(s)
Bachelor of Computing and Cyber Security - BCompCybSec

UAC Code
450030
Learning Outcomes

1. On completion of this program, graduates will be able to apply computational solutions to different verticals in government and industry, by modelling, simulation and integration, following agreed architectures, design standards, patterns, and methodologies, in professional and multi-disciplinary collaboration with identified stakeholders.

2. On completion of this program, graduates will be able to articulate the theoretical underpinnings of information confidentiality, integrity, and availability, including attack lifecycles, cryptography, security controls, ethics, legal aspects, risk assessment, incident response, and standards.

3. On completion of this program, graduates will be able to design, implement, verify, validate, document, deploy and explain computational solutions as algorithms coded in high-level programming languages, using conventional standards and tools to meet well-described outcomes.

4. On completion of this program, graduates will be able to develop software with appropriate security controls, security implementations, and testing frameworks, implement and configure cyber defensive and offensive technologies, and conduct basic network risk assessments, all in accordance with current best practice and in professional collaboration with the relevant stakeholders.

5. On completion of this program, graduates will be able to provide comprehensive security in existing and new network architectures through intelligent placement of multiple defensive and offensive security controls and systems, based on the different threat profiles faced and the different protections and limitations posed by each.

6. On completion of this program, graduates will be able to articulate ICT disciplinary theories and trends in the current information age, including insights into the ethical and social issues of computing.

7. On completion of this program, graduates will be able to competently demonstrate critical problem-solving and design skills, together with modern project
management techniques, in the context of ICT projects.

8. On completion of this program, graduates will be able to work in a productive, ethical, and professional manner – either independently or in teams – applying life-long learning to remain contemporary and competent in the ICT discipline.

9. On completion of this program, graduates will be able to apply the framework of computational thinking and knowledge of computability, complexity theory, and information representation to describe and manipulate fundamental computing knowledge concerning software development and programming languages, operating systems, computer hardware, networks and approaches to refining and maintaining efficiency and security.

Graduate Capabilities:

For more information on Graduate Capabilities, please click on this [link].
Program Structure

Students must complete 144 UOC as a standalone program.

1. Core courses - 90 UOC  
2. Discipline Elective courses - 30 UOC  
3. Free elective courses - 12 UOC  
4. General Education courses - 12 UOC  

Level 1 Core Courses

Students must take 36 UOC of the following courses.

ZEIT1102 | 6 UOC  
Introduction to Programming

ZEIT1110 | 6 UOC  
Computer Games

ZINT2100 | 6 UOC  
Introduction to Cyber-Security: Policy & Operations

ZPEM1301 | 6 UOC  
Mathematics 1A

ZPEM1306 | 6 UOC  
Introduction to Discrete Mathematics

ZPEM1307 | 6 UOC  
Computational Problem Solving

Level 2 Core Courses

Students must take 30 UOC of the following courses.

ZEIT2102 | 6 UOC  
Computer Technology
Level 3 Core Courses

Students must take 24 UOC of the following courses.

ZEIT3101  |  6 UOC
IT Project 2

ZEIT3114  |  6 UOC
Internetworking

ZEIT3118  |  6 UOC
IT Project 1

ZEIT3119  |  6 UOC
Web Development and Security

DISCIPLINE ELECTIVES

Students must take at least 30 UOC of the following courses.

ZBUS3102  |  6 UOC
Project Management

ZBUS3303  |  6 UOC
Logistics Management
ZEIT2105 | 6 UOC
Systems Analysis and Design

ZEIT3113 | 6 UOC
Computer Languages and Algorithms

ZEIT3120 | 6 UOC
Programming for Security

ZEIT3121 | 6 UOC
Securing Networks

ZEIT3404 | 6 UOC
Simulation

ZHSS2601 | 6 UOC
Introductory Business Ethics

ZPEM2213 | 6 UOC
The Art and Science of Doing Geography

**Free Electives**

Students must take at least 12 UOC of the following courses.

*any course*

**General Education**

Students must take at least 12 UOC of the following courses.

One of the following:

ZGEN2222 | 6 UOC
Introduction to Strategic Studies

ZGEN2801 | 6 UOC
Strategy, Management and Leadership
One of the following:
ZGEN2215  |  6 UOC
Law, Force and Legitimacy

ZGEN2240  |  6 UOC
Introduction to Military Ethics

**Level 1 Maximum UOC**

Students may only undertake a maximum of 48 UOC of the following courses.

any level 1 course

**Level 2 & Level 3 Minimum UOC**

Students must complete a minimum of 96 UOC of upper level courses.

any level 2 course

any level 3 course

**Enrolment Disclaimer**

Unless advised otherwise by your program authority, you should follow the rules for the handbook for the year you commenced your program. You are also responsible for ensuring you enrol in courses according to your program requirements. myUNSW enrolment checks that you have met enrolment requirements such as pre-requisites for individual courses but not that a course will count towards your program requirements.
Program Requirements

Progression Requirements

Not specified

For more information on university policy on progression requirements please visit Academic Progression.
Pathways

Post Graduate

**Master of Cyber Security - MCyberSec**

8628 Cyber Security

Faculty: UNSW Canberra at ADFA  
Campus: Canberra  
Units of Credit: 48  
Typical Duration: 1 Years

Read More

**Master of Cyber Security Operations - MCyberSecOps**

8629 Cyber Security Operations

Faculty: UNSW Canberra at ADFA  
Campus: Canberra  
Units of Credit: 48  
Typical Duration: 1 Years

Read More

**Master of Cyber Security, Strategy and Diplomacy - MCSSD**

8631 Cyber Security, Strategy and Diplomacy

Faculty: UNSW Canberra at ADFA  
Campus: Canberra  
Units of Credit: 48  
Typical Duration: 1 Years

Read More
Recognition of Achievement

University Medal

The University Medal is awarded to recognise outstanding academic performance by a bachelor degree student in line with the University Medal Policy and University Medal Procedure.

Award of Pass with Distinction

The Award of Pass with Distinction is awarded when a weighted average mark (WAM) of at least 75% has been achieved and at least 50% of the requirements of the award completed at UNSW. All eligible programs will award Pass with Distinction except in special circumstances where approval of Academic Board has been given for a program to opt out.

For more information, please visit:

Current Students Pass With Distinction
Program Fees

At UNSW fees are generally charged at course level and therefore dependent upon individual enrolment and other factors such as student's residency status. For generic information on fees and additional expenses of UNSW programs, click on one of the following:

- Domestic Students
- Commonwealth Supported Students
- International Students
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions
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Authorised by Deputy Vice-Chancellor (Academic)
CRICOS Provider Code 00098G
ABN: 57 195 873 179